Solar activity ranged from low to high levels. Region 720 (N13, L=178, class/area, Ekc/1630 on 16 January) remained the largest and most impressive group on the visible disk. During this period, the region produced twenty-five C-class, eight M-class, and three X-class flares; of these thirty-six flares, three were significant. The first of these significant events was an X3.8/sf proton flare at 17/0952 UTC. Associated with this event were very significant radio bursts including a 12,000 sfu Tenflare, Type II (1568 km/s) and Type IV radio sweeps, and a complex NW directed full halo CME. Some restructuring of the sunspots was apparent following the flare. The second significant event occurred at 19/0822 UTC when Region 720 produced an X1.3/2n with associated Type II (1093 km/s) and Type IV radio sweeps. Another NW directed CME was detected with this event. The last of the significant events was Region 720's largest during its life cycle. At 20/0701 UTC, the region produced a very energetic X7.1/2b proton flare. Accompanying this flare was a large 8,400 sfu Tenflare, and Type II (712 km/s) and Type IV radio sweeps. A single image from the LASCO C2 coronagraph showed an associated CME off the NW limb at 20/0654 UTC. Shortly after this observation, the LASCO coronagraph imagery underwent severe particle contamination, and the CME was no longer discernable. Region 720 rotated around the west limb on 22 January, but still managed to produce an M1.0 flare early on the 23rd.

Solar wind data were available from the NASA Advanced Composition Explorer (ACE) spacecraft during most of the summary period. The period began under the influence of a high speed coronal hole stream, with solar wind speed ranging between 550 – 600 km/s. Transient flow, likely associated with CME activity on 15 January, arrived at around 17/0715 UTC. Solar wind speed initially increased to just above 600 km/s, but by 17/1200 UTC, speed exceeded 800 km/s. Following the CME arrival, the IMF Bz rotated southward to near -20 nT. Bz was generally northward for the latter half of the 17th, but rotated between +/- 20 nT through the 18th. The solar energetic proton event, that began at 17/1215 UTC, contaminated the ACE SWEPAM instrument resulting in unusable solar wind density, speed, and temperature values. The contamination began at 17/1322 UTC and ended at 18/2241 UTC. Upon recovery, solar wind speed was over 970 km/s, but gradually declined to near 600 km/s by the end of the 19th. Total IMF measurements were elevated, but the Bz component stayed between a +/-5 nT range through the 19th. SWEPAM data were again contaminated beginning at 20/0700 UTC, following the onset of the intense high energy proton event associated with the X7.1 flare. The instrument recovered at 21/0402 UTC, with solar wind speed near 600 km/s and in gradual decline. A strong shock was observed at ACE at 21/1642 UTC. Solar wind speed rose quickly to a maximum of 987 km/s at 21/1926 UTC. Total field rapidly increased to 38 nT, with the Bz component turning sharply southward to over -25 nT. The period of southward Bz was short-lived as Bz was generally northward after 21/1830 UTC. This transient flow was likely associated with the X7.1 flare that occurred early on the 20th. Solar wind speed gradually declined following this strong shock and finished the period at just under 600 km/s.

The sequence of significant X-ray flares produced by Region 720 resulted in a series of ≥10 MeV and ≥100 MeV proton events. A summary of the entire progression of events follows: A ≥10 MeV proton enhancement began following the long duration M8.6 flare on 15 January; however, the 10 pfu event threshold was not exceeded during this enhancement. A ≥10 MeV proton event began on 16/0210 UTC following the X2.6 flare late on the 15th. The peak flux following this flare was 365 pfu at 16/1840 UTC. The ≥10 MeV protons decayed to 117 pfu by midday on 17 January when a stronger injection of protons occurred following the X3.8 flare and CME. This new intensification included protons at ≥100 MeV. This new infusion began at 17/1215 UTC (\geq 100 MeV) and 17/1240 UTC (\geq 10 MeV). The \geq 100 MeV proton flux maxed at 28.1 pfu at 17/1700 UTC while the ≥10 MeV proton flux maxed at 5040 pfu at 17/1750 UTC. The ≥100 MeV event ended at 18/2205 UTC while the ≥10 MeV event decayed to about 19 pfu early on the 20th. The hardest and most energetic proton event of Cycle 23 occurred in association with the X7.1 flare on 20 January. Protons at both ≥10MeV and ≥100 MeV energy levels rose rapidly. The ≥10 MeV protons peaked at 1860 pfu at 20/0810 UTC. The ≥100 MeV protons peaked at 652 pfu at 20/0710 UTC, which was the highest ≥100 MeV proton flux level observed since October 1989. An intense ground level event (GLE), the largest of Cycle 23, immediately followed this new infusion of highly energetic protons. The ≥100 MeV protons ended at 21/1845 UTC while the \geq 10 MeV proton event ended at 22/1755 UTC.



The \geq 2 MeV electron flux at geosynchronous orbit was at high levels from 17 – 23 January.

The geomagnetic field ranged from quiet to severe storming. Elevated coronal hole flow produced active levels to start the period. The transient activity associated with multiple solar eruptions on the 15th, arrived early on 17 January. This began a three-day period of minor to severe geomagnetic storming. Predominantly minor storming with isolated major storming was observed at the lower to mid latitudes, while extended periods of major to severe storming occurred at higher latitudes. Quiet to active levels returned on 20 January, with isolated storm periods at high latitudes. The strong shock that arrived late on 21 January was followed by periods of major to severe storming at all latitudes. The most severe storm levels occurred during a short period of strong southward IMF Bz following the shock arrival. The storming was short-lived, as Bz turned northward within two hours of the shock arrival. Unsettled to minor storming was observed on the 22nd. Solar wind speed continued to decline through the end of the period. The geomagnetic field responded with quiet to active levels with isolated minor storm periods at high latitudes.

Space Weather Outlook 26 January - 21 February 2005

Solar activity is expected to be at very low to low levels through 05 February with a chance of M-class activity from 05 – 19 February due to the return of old Region 720 (N13, L=178).

A greater than 10 MeV proton event is not expected through early February. Thereafter, a proton event is possible following the return of old Region 720 on 05 February.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at high levels on 26 January, 29 January to 03 February and 08 - 10 February.

The geomagnetic field is expected to range from quiet to minor storm levels. Coronal hole high speed wind streams are expected to produce unsettled to active with occasional minor storm periods on 28 January -01 February and 07 - 08 February. Otherwise, expect quiet to unsettled conditions.



Daily Solar Data

| | | | | 2 11117 20 | <i></i> 2 . | | | | | | | |
|------------|---------|------|--------------------------|------------|-------------|--------|-----|--------|----|--------|---|---|
| | Radio | Sun | Sunspot | X-ray | _ | | | Flares | | | | |
| | Flux | spot | Area | Background | X | -ray F | lux | | Or | otical | | |
| Date | 10.7 cm | No. | (10 ⁻⁶ hemi.) | | С | M | X | S | 1 | 2 | 3 | 4 |
| 17 January | 138 | 107 | 1770 | C1.5 | 2 | 1 | 1 | 5 | 0 | 1 | 0 | 0 |
| 18 January | 124 | 109 | 1650 | B7.1 | 7 | 2 | 0 | 7 | 2 | 1 | 0 | 0 |
| 19 January | 133 | 66 | 1400 | B6.8 | 4 | 3 | 1 | 5 | 1 | 2 | 0 | 0 |
| 20 January | 123 | 61 | 1580 | B8.7 | 5 | 0 | 1 | 4 | 0 | 1 | 1 | 0 |
| 21 January | 114 | 69 | 1290 | B6.2 | 9 | 2 | 0 | 2 | 0 | 0 | 0 | 0 |
| 22 January | 102 | 60 | 1230 | B3.0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 23 January | 96 | 40 | 230 | B1.5 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

Daily Particle Data

| | Pro | oton Fluence | | Electron Fluence | | | | | | | | |
|------------|--------|----------------------------|----------|-------------------------------------|--|--|--|--|--|--|--|--|
| | (proto | ons/cm ² -day-s | r) | (electrons/cm ² -day-sr) | | | | | | | | |
| Date | >1MeV | >10MeV | >100MeV | >.6MeV >2MeV >4MeV | | | | | | | | |
| 17 January | 6.2E+8 | 1.1E+8 | 6.7E+5 | 1.4E+7 | | | | | | | | |
| 18 January | 5.5E+8 | 9.4E+7 | 3.8E + 5 | 2.0E+8 | | | | | | | | |
| 19 January | 1.1E+8 | 8.2E+6 | 8.8E+3 | 4.4E+8 | | | | | | | | |
| 20 January | 1.4E+8 | 5.2E+7 | 6.1E+6 | 1.1E+9 | | | | | | | | |
| 21 January | 2.8E+8 | 1.2E+7 | 3.5E+5 | 9.4E+8 | | | | | | | | |
| 22 January | 2.8E+7 | 1.4E+6 | 2.6E+4 | 1.1E+7 | | | | | | | | |
| 23 January | 8.4E+6 | 2.2E+5 | 9.1E+3 | 5.2E+8 | | | | | | | | |

Daily Geomagnetic Data

| | N | Middle Latitude | | High Latitude |] | Estimated |
|------------|----|-----------------|-----|-----------------|----|-----------------|
| | | Fredericksburg | | College | | Planetary |
| Date | A | K-indices | A | K-indices | A | K-indices |
| 17 January | 27 | 3-2-2-5-5-5-4-3 | 114 | 4-4-4-8-8-8-6-4 | 63 | 5-4-3-7-7-5-3 |
| 18 January | 35 | 6-4-5-4-4-3-4 | 136 | 6-5-8-7-8-8-5-5 | 72 | 6-5-7-5-6-6-4-5 |
| 19 January | 31 | 5-5-5-4-5-2-2-3 | 106 | 4-4-7-9-7-6-2-4 | 62 | 6-6-6-7-6-4-3-4 |
| 20 January | 10 | 0-1-1-2-4-4-2-2 | 24 | 2-2-1-2-5-6-3-4 | 12 | 2-1-1-2-4-4-3-3 |
| 21 January | 30 | 3-1-2-1-2-6-6-5 | 92 | 2-2-4-5-4-8-8-7 | 61 | 3-1-3-2-2-8-8-6 |
| 22 January | 23 | 5-6-2-2-2-3-3 | 41 | 5-5-5-5-5-4-3 | 28 | 5-6-3-3-3-4-3 |
| 23 January | 12 | 4-3-2-2-3-2-2 | 24 | 3-2-4-4-5-5-3-2 | 17 | 4-4-3-3-3-4-3-2 |
| | | | | | | |



Alerts and Warnings Issued

| Date & Time of Issue | Type of Alert or Warning Dat | te & Time of Event UT |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| • | 1 – 245 MHz Radio Burst | 16 Jan |
| 17 Jan 0010 | 1 – 245 MHz Radio Buist 1 – 245 MHz Radio Noise Storm | 16 Jan |
| 17 Jan 0010 | | |
| 17 Jan 0102 | CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu ALERT: Geomagnetic K= 4 | 16 Jan 0210 17 Jan 0125 |
| 17 Jan 0131 | <u> </u> | |
| 17 Jan 0732 | WARNING: Geomagnetic Sudden Impulse | 17 Jan 0733 - 0830 |
| 17 Jan 0910 | ALERT: X-Ray Flux > M5 | 17 Jan 0908 |
| 17 Jan 0924 | ALERT: Type IV Radio Emission | 17 Jan 0900 |
| 17 Jan 0933 | ALERT: Type II Radio Emission | 17 Jan 0916 |
| 17 Jan 1017 | SUMMARY: X-ray Event > X1 | 17 Jan 0702 |
| 17 Jan 1116 | SUMMARY: 10cm Radio Burst | 17 Jan 0804 |
| 17 Jan 1137 | WARNING: Geomagnetic K= 5 | 17 Jan 1137 - 1500 |
| 17 Jan 1143 | ALERT: Geomagnetic K= 5 | 17 Jan 1141 |
| 17 Jan 1152 | ALERT: Geomagnetic K= 6 | 17 Jan 1151 |
| 17 Jan 1221 | WARNING: Proton 100MeV Integral Flux > 1pfu | 17 Jan 1222 - 1500 |
| 17 Jan 1225 | WARNING: Geomagnetic K= 6 | 17 Jan 1225 - 1500 |
| 17 Jan 1240 | ALERT: Proton Event 100MeV Integral Flux > 1pfu | 17 Jan 1215 |
| 17 Jan 1342 | ALERT: Geomagnetic K= 6 | 17 Jan 1340 |
| 17 Jan 1427 | WARNING: Geomagnetic K≥7 | 17 Jan 1427 -1800 |
| 17 Jan 1436 | ALERT: Proton Event 10MeV Integral Flux > 1000pfu | 17 Jan 1410 |
| 17 Jan 1453 | ALERT: Type II Radio Emission | 17 Jan 0944 |
| 17 Jan 1644 | ALERT: Geomagnetic K= 6 | 17 Jan 1642 |
| 17 Jan 1755 | EXT WARNING: Geomagnetic K= 6 | 17 Jan 1225 - 2359 |
| 17 Jan 2216 | WATCH: Geomagnetic A≥30 | 20 Jan |
| 17 Jan 2218 | WATCH: Geomagnetic A 50 | 19 Jan |
| 17 Jan 2220 | WATCH: Geomagnetic A≥ 50 | 18 Jan |
| 17 Jan 2222 | EXT WARNING: Proton 100MeV Integral Flux > 1pfu | 17 Jan 1222 -18 Jan 2359 |
| 17 Jan 2225 | EXT WARNING: Geomagnetic K= 6 | 17 Jan 1225 -18 Jan 2359 |
| 17 Jan 2228 | EXT WARNING: Proton 10MeV Integral Flux > 10pfu | 15 Jan 0900 -18 Jan 2359 |
| 18 Jan 0011 | 1 – 245 MHz Radio Burst | 17 Jan 17 Jan |
| 18 Jan 0011 18 Jan 0103 | 1 – 245 MHz Radio Noise Storm | |
| | CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfi | |
| 18 Jan 0109 18 Jan 0704 | CONT ALERT: Proton Event 100MeV Integral Flux > 1pfu | 17 Jan 1215 18 Jan 0633 |
| 18 Jan 0715 | ALERT: Type IV Radio Emission ALERT: Geomagnetic K-index of 6 | 18 Jan 0713 |
| 18 Jan 1354 | ALERT: Geomagnetic K-index of 6 | 18 Jan 1354 |
| 18 Jan 1748 | ALERT: Geomagnetic K-index of 6 | 18 Jan 1736 |
| 18 Jan 1845 | ALERT: Geomagnetic K-index of 6 ALERT: Electron 2MeV Integral Flux > 1000pfu | 18 Jan 1525 |
| 18 Jan 2209 | EXT WARNING: Proton 10MeV Integral Flux > 10pfu | 15 Jan 0900 - 19Jan 2359 |
| 18 Jan 2220 | SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu | |
| 18 Jan 2333 | EXT WARNING: Geomagnetic K= 6 | 17 Jan 1420 17 Jan 1225 -19 Jan 2359 |
| 18 Jan 0012 | 1 – 245 MHz Radio Burst | 18 Jan |
| 18 Jan 0012 | 1 – 245 MHz Radio Noise Storm | 18 Jan |
| 19 Jan 0107 | CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu | 16 Jan 0210 |
| 19 Jan 0506 | ALERT: Electron 2MeV Integral Flux exceeded 1000pfu | 19 Jan 0500 |
| 19 Jan 0518 | SUMMARY: 10cm Radio Burst | 19 Jan 0510 |
| 19 Jan 0527 | ALERT: Geomagnetic K=6 | 19 Jan 0520 |
| 19 Jan 0731 | ALERT: X-Ray Flux > M5 | 19 Jan 0730 |
| 19 Jan 0810 | SUMMARY: X-ray Event exceeded M5 | 19 Jan 0658 |
| 19 Jan 0815 | ALERT: X-Ray Flux > M5 | 19 Jan 0810 |
| 19 Jan 0836 | ALERT: Type II Radio Emission | 19 Jan 0814 |
| 19 Jan 0840 | ALERT: Type IV Radio Emission | 19 Jan 0812 |
| 19 Jan 0844 | SUMMARY: X-ray Event > X1 | 19 Jan 0803 |
| -> -> -> -> -> -> -> -> -> -> -> -> -> - | Committee in the Profit of the Party of the | 17 0000 |

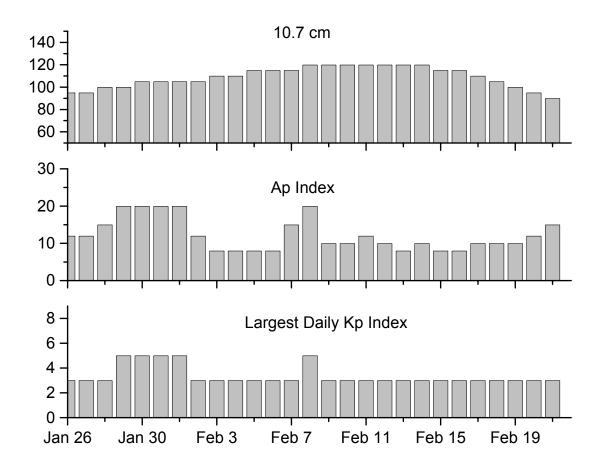


Alerts and Warnings Issued – continued.

| Date & Time of Issue Type of Alert or Warning Date & Time of Fewet UT 19 Jan 108 ALERT. Geomagnetic K = 6 19 Jan 104 19 Jan 1108 SUMMARY: 10cm Radio Burst 19 Jan 0741 19 Jan 1359 SUMMARY: 10cm Radio Burst 19 Jan 1031 19 Jan 2003 EXTENDED WARNING: Geomagnetic A ≥ 20 21 Jan 19 Jan 2013 WATCH: Geomagnetic A ≥ 20 21 Jan 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 15 Jan 0900 − 20 Jan 2359 20 Jan 0105 CONT ALERT: Proton Event 100MeV Integral Flux > 1pfu 15 Jan 0900 − 20 Jan 2359 20 Jan 0164 ALERT: Proton Event 10MeV Integral Flux > 1pfu 17 Jan 1215 20 Jan 0646 ALERT: Proton Event 10MeV Integral Flux > 1pfu 20 Jan 0644 20 Jan 0701 ALERT: Proton Event 10MeV Integral Flux > 1pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 1pfu 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1pfu 20 Jan 0646 20 Jan 0721 ALERT: Type IV Radio Emission 20 Jan 0701 20 Jan 0730 ALERT: Herton Event 10MeV Integral Flux > 1pfu 20 Jan 0636 | - O. T.: O.Y | There's and Wartings Issued - Communed. | 0.77 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------|---------------------------|
| 19 Jan 1108 SUMMARY: 10cm Radio Burst 19 Jan 1031 19 Jan 1535 SUMMARY: 10cm Radio Burst 19 Jan 1033 19 Jan 1535 SUMMARY: 10cm Radio Burst 17 Jan 1215 19 Jan 2003 EXTENDED WARNING: Geomagnetic K = 6 17 Jan 1225 19 Jan 2010 WATCH: Geomagnetic A ≥ 20 21 Jan 1225 19 Jan 2013 WATCH: Geomagnetic A ≥ 20 22 Jan 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 15 Jan 0900 − 20 Jan 2359 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 17 Jan 1215 20 Jan 0105 CONT ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0500 20 Jan 0516 ALERT: Electron 2MeV Integral Flux > 100pfu 20 Jan 0644 20 Jan 0646 ALERT: Type II Radio Emission 20 Jan 0644 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0701 20 Jan 0701 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0705 20 Jan 0702 ALERT: Type II Radio Emission 20 Jan 0643 20 Jan 0703 ALERT: Type IV Radio Emission 20 Jan 0645 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0705 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0705 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0705 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 0636 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1636 20 Jan 1845 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0730 20 Jan 1846 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0730 21 Jan 164 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 1845 20 Jan 1845 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 21 Jan 1720 21 Jan 1730 21 Jan 1731 21 Jan 1732 31 Jan 1741 31 Jan 1742 32 Jan 1744 32 Jan 1745 | Date & Time of Issue | | |
| 19 Jan 1539 19 Jan 1535 19 Jan 1535 19 Jan 1535 19 Jan 1535 19 Jan 2010 EXTENDED WARNING: Geomagnetic K = 6 17 Jan 1225 −20 Jan 2359 19 Jan 2010 WATCH: Geomagnetic A ≥ 20 21 Jan 19 Jan 2300 EXT WARNING: Froton IOMeV Integral Flux > 10pfu 20 Jan 0012 5 − 245 MHz Radio Bursts 10 Jan 1005 CONT ALERT: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0105 CONT ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0616 ALERT: Electron 2MeV Integral Flux > 10pfu 20 Jan 0646 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0658 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0704 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0704 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0701 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0701 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0703 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0703 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0830 WARNING: Proton In00MeV Integral Flux > 10pfu 20 Jan 0830 WARNING: Proton 100MeV Integral Flux > 10pfu 20 Jan 0830 UMARNY: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0830 UMARNY: Seomagnetic K = 4 21 Jan 1716 ALERT: WARNING: Geomagnetic K = 4 21 Jan 1718 ALERT: Geomagnetic K = 5 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1732 ALERT: Geomagnetic K = 7 21 Jan 1732 21 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1749 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1740 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1730 21 Jan 1750 22 Jan 0845 ALERT: Geomagnetic K = 6 21 Jan 1730 20 Jan 0854 21 Jan 2324 22 Jan 0854 22 Jan 0854 22 Jan 0854 22 Jan 0854 22 Jan 2343 ALERT: Becomagnetic K = 6 22 Jan 0854 22 Jan 2343 A | | | |
| 19 Jan 1535 SUMMARY: Proton Event 100MeV Integral Flux > 1 pfu 17 Jan 1215 19 Jan 2010 WATCH: Geomagnetic A ≥ 20 21 Jan 1225 - 20 Jan 2359 19 Jan 2013 WATCH: Geomagnetic A ≥ 20 22 Jan 2359 20 Jan 0012 5 - 245 MHz Radio Bursts 19 Jan 2013 17 Jan 1215 15 Jan 0900 - 20 Jan 2359 20 Jan 0015 CONT ALERT: Proton Event 100MeV Integral Flux > 10 pfu 20 Jan 0516 ALERT: Electron ZweV Integral Flux > 1000pfu 20 Jan 0668 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0640 ALERT: Proton Event 100MeV Integral Flux > 10 pfu 20 Jan 0640 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 10 pfu 20 Jan 0701 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0701 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0701 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0703 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0703 ALERT: Proton Event 10 MeV Integral Flux > 10 pfu 20 Jan 0703 20 Jan 0830 WARNING: Proton 10 MeV Integral Flux > 10 pfu 20 Jan 0730 20 Jan 0830 WARNING: Proton 10 MeV Integral Flux > 10 pfu 20 Jan 0830 20 Jan 1320 20 J | 19 Jan 1108 | | |
| 19 Jan 2003 EXTENDED WARNING: Geomagnetic K = 6 21 Jan 2010 19 Jan 2010 WATCH: Geomagnetic A ≥ 20 22 Jan 2359 19 Jan 2013 WATCH: Geomagnetic A ≥ 20 22 Jan 2359 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 15 Jan 0900 − 20 Jan 2359 20 Jan 0015 CONT ALERT: Proton Event 100MeV Integral Flux > 10pfu 17 Jan 1215 20 Jan 0516 ALERT: Electron 2MeV Integral Flux > 100pfu 20 Jan 0500 20 Jan 0646 ALERT: Type II Radio Emission 20 Jan 0644 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0640 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 | 19 Jan 1359 | | 19 Jan 1033 |
| 19 Jan 2010 19 Jan 2013 19 Jan 2013 19 Jan 2030 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 00105 CONT ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0166 ALERT: Electron ZMeV Integral Flux > 10pfu 20 Jan 0646 ALERT: Type IV Radio Emission 20 Jan 0688 ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0704 ALERT: Type IV Radio Emission 20 Jan 0704 ALERT: Type IV Radio Emission 20 Jan 0701 ALERT: Type IV Radio Emission 20 Jan 0701 ALERT: Type IV Radio Emission 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0701 ALERT: Type IV Radio Emission 20 Jan 0701 ALERT: Type IV Radio Emission 20 Jan 0703 ALERT: Type IV Radio Emission 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Type IV Radio Emission 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Type IV Radio Emission 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 VARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 10pfu 21 Jan 0649 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 0649 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 1644 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1714 WARNING: Geomagnetic K = 4 21 Jan 1715 SUMMARY: Geomagnetic K = 5 21 Jan 1710 UARNING: Geomagnetic K = 5 21 Jan 1711 11 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1742 21 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1742 21 Jan 1742 WARNING: Proton Event 10MeV Integral Flux > 10pfu 21 Jan 0500 22 Jan 0630 22 Jan 06 | 19 Jan 1535 | SUMMARY: Proton Event 100MeV Integral Flux > 1pfu | 17 Jan 1215 |
| 19 Jan 2013 WATCH: Geomagnetic A ≥ 20 22 Jan 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 5 − 245 MHz Radio Bursts 19 Jan 17 Jan 1215 19 Jan 0105 20 Jan 0105 ALERT: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0646 ALERT: Electron 2MeV Integral Flux > 10pfu 20 Jan 0646 ALERT: Type II Radio Emission 20 Jan 0644 20 Jan 0648 ALERT: Type II Radio Emission 20 Jan 0644 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0704 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0721 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0731 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0730 ALERT: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 1845 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 1845 WARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 0649 EXT WARNING: Proton 10MeV Integral Flux > 1pfu 22 Jan 1845 WARNING: Proton 10MeV Integral Flux > 1pfu 23 Jan 0649 EXT WARNING: Proton 10MeV Integral Flux > 1pfu 24 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 25 Jan 1704 WARNING: Geomagnetic K = 4 26 Jan 1715 ALERT: Geomagnetic K = 5 27 Jan 1716 2Jan 1725 28 Jan 1742 WARNING: Geomagnetic K = 5 29 Jan 1742 WARNING: Geomagnetic K = 6 20 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1741 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1741 ALERT: Geomagnetic K = 7 21 Jan 1742 WARNING: Proton Event 10MeV Integral Flux > 10pfu 21 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1742 ALERT: Geomagnetic K = 7 21 Jan 1840 ALERT: Geo | 19 Jan 2003 | EXTENDED WARNING: Geomagnetic $K = 6$ | 17 Jan 1225 –20 Jan 2359 |
| 19 Jan 2300 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 19 Jan 170 19 Jan 1715 20 Jan 01015 CONT ALERT: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0500 20 Jan 0516 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0644 20 Jan 0646 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0644 20 Jan 06688 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0644 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0701 20 Jan 0704 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 0635 20 Jan 1320 ALERT: Florton Event 10MeV Integral Flux > 10pfu 20 Jan 0635 20 Jan 1320 ALERT: Electron 2MeV Integral Flux > 10pfu 20 Jan 0730 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0730 20 Jan 0830 20 Jan 1320 20 Jan 1 | 19 Jan 2010 | WATCH: Geomagnetic $A \ge 20$ | 21 Jan |
| 20 Jan 0102 20 Jan 0105 CONT ALERT; Proton Event 100MeV Integral Flux > 10fu 20 Jan 0516 ALERT: Electron 2WeV Integral Flux > 1000pfu 20 Jan 0644 20 Jan 0658 ALERT: Type II Radio Emission 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0704 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0704 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 100MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 100MeV Integral Flux > 1000pfu 20 Jan 0701 20 Jan 0721 ALERT: Proton Event 100MeV Integral Flux > 1000pfu 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 100pfu 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 1320 ALERT: Sype IV Radio Emission 20 Jan 10636 20 Jan 10906 SUMMARY: 10cm Radio Burst 20 Jan 10635 20 Jan 1320 ALERT: Electron 2MeV Integral Flux > 10pfu 20 Jan 10636 21 Jan 10634 ALERT: Electron 2MeV Integral Flux > 10pfu 20 Jan 10636 21 Jan 10649 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 0654 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 10654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1716 WARNING: Geomagnetic K = 4 21 Jan 1717 ALERT: Geomagnetic K = 5 21 Jan 1718 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 22 Jan 2349 23 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 24 Jan 1839 25 Jan 1834 ALERT: Geomagnetic K = 6 26 Jan 1839 27 Jan 1740 28 Jan 1751 ALERT: Geomagnetic K = 6 29 Jan 1730 20 Jan 0830 - 22 Jan 1750 | 19 Jan 2013 | WATCH: Geomagnetic $A \ge 20$ | 22 Jan |
| 20 Jan 0105 CONT ALERT: Proton Event 100MeV Integral Flux > 1000pfu 20 Jan 0500 20 Jan 0646 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0644 20 Jan 0658 ALERT: Type II Radio Emission 20 Jan 0644 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0704 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0730 20 Jan 0810 SUMMARY: X-ray Event > X1 20 Jan 0635 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 0635 20 Jan 1330 ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0635 20 Jan 1320 ALERT: Electron 2MeV Integral Flux > 1pfu 20 Jan 1232 20 Jan 1330 ALERT: Electron 2MeV Integral Flux > 1pfu 20 Jan 1845 - 2359 20 Jan 1232 20 Jan 1232 20 Jan 1232 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1pfu 20 Jan 0830 - 21 Jan 254 | 19 Jan 2300 | EXT WARNING: Proton 10MeV Integral Flux > 10pfu | 15 Jan 0900 – 20 Jan 2359 |
| 20 Jan 0516 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0644 20 Jan 0668 ALERT: X-Ray Flux > M5 20 Jan 0644 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0704 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 20 Jan 0810 SUMMARY: Type IV Radio Emission 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0635 20 Jan 18320 ALERT: Type IV Radio Emission 20 Jan 0635 20 Jan 1845 WARNING: Proton 10MeV Integral Flux > 1pfu 20 Jan 0635 20 Jan 18320 ALERT: Electron 2MeV Integral Flux > 1pfu 20 Jan 1644 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 17070 21 Jan 0644 EXT WARNING: Proton 10MeV Integral Flux > 1pfu 20 Jan 1845 - 21 Jan 180 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 172 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse | 20 Jan 0012 | 5 – 245 MHz Radio Bursts | 19 Jan |
| 20 Jan 0646 20 Jan 0658 ALERT: X-Ray Flux > M5 20 Jan 06702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0704 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0810 SUMMARY: X-ray Event > X1 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 VARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1320 VARNING: Proton 100MeV Integral Flux > 10pfu 20 Jan 1635 20 Jan 1320 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1000pfu 21 Jan 0518 ALERT: Broton 100MeV Integral Flux > 10pfu 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 1654 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 1654 WARNING: Geomagnetic K = 4 21 Jan 1710 VARNING: Geomagnetic K = 4 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1716 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1742 11 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1740 22 Jan 084 ALERT: Geomagnetic K = 7 21 Jan 184 ALERT: Geomagnetic K = 6 21 Jan 183 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 183 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 183 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 183 21 Jan 2004 ALERT: Geomagnetic K = 6 21 Jan 183 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Geoma | 20 Jan 0105 | CONT ALERT: Proton Event 100MeV Integral Flux > 1pfu | 17 Jan 1215 |
| 20 Jan 0658 ALERT: Type II Radio Emission 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 10fu 20 Jan 0701 20 Jan 0702 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0701 20 Jan 0701 20 Jan 0702 20 Jan 0702 20 Jan 0721 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0643 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0636 20 Jan 0636 20 Jan 0830 | 20 Jan 0516 | ALERT: Electron 2MeV Integral Flux > 1000pfu | 20 Jan 0500 |
| 20 Jan 0702 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0701 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 20 Jan 0721 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0730 20 Jan 0810 SUMMARY: S-ray Event > X1 20 Jan 0830 20 Jan 0906 SUMMARY: 10cm Radio Burst 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1232 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1845 - 2359 20 Jan 1320 WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 1845 - 2359 20 Jan 12039 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 1845 - 2359 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 10pfu 21 Jan 0705 - 1440 21 Jan 1649 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 1845 - 21 Jan 1800 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse 21 Jan 1710 - 21 Jan 1725 21 Jan 1720 WARNING: Geomagnetic K = 5 </td <td>20 Jan 0646</td> <td>ALERT: X-Ray Flux > M5</td> <td>20 Jan 0644</td> | 20 Jan 0646 | ALERT: X-Ray Flux > M5 | 20 Jan 0644 |
| 20 Jan 0704 ALERT: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0701 20 Jan 0721 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0643 20 Jan 0810 SUMMARY: Type IV Radio Emission 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 0635 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 1232 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 0705 - 1440 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1000pfu 21 Jan 0705 - 1440 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 0830 - 21 Jan 2359 21 Jan 1654 WARNING: Proton 10MeV Integral Flux > 1pfu 20 Jan 0830 - 21 Jan 1780 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse expected 21 Jan 1711 - 21 Jan 1726 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Ge | 20 Jan 0658 | ALERT: Type II Radio Emission | 20 Jan 0644 |
| 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 0730 20 Jan 0810 SUMMARY: X-ray Event > X1 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 0830 - 2359 20 Jan 1906 SUMMARY: 10cm Radio Burst 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1645 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1000pfiu 20 Jan 1845 - 2359 21 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 1845 - 2359 21 Jan 0618 ALERT: Electron 2MeV Integral Flux > 1000pfiu 20 Jan 1845 - 231 Jan 1800 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 10pfiu 20 Jan 1845 - 21 Jan 1800 21 Jan 1654 EXT WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 1845 - 21 Jan 1800 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1718 ALERT: Geomagnetic K = 5 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1712 21 Jan 1732 ALERT: Geomagnetic K = 5 </td <td>20 Jan 0702</td> <td>ALERT: Proton Event 10MeV Integral Flux > 100pfu</td> <td>20 Jan 0701</td> | 20 Jan 0702 | ALERT: Proton Event 10MeV Integral Flux > 100pfu | 20 Jan 0701 |
| 20 Jan 0712 ALERT: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 0705 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 0730 20 Jan 0810 SUMMARY: X-ray Event > X1 20 Jan 0636 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 0830 - 2359 20 Jan 1906 SUMMARY: 10cm Radio Burst 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1645 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1000pfiu 20 Jan 1845 - 2359 21 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfiu 20 Jan 1845 - 2359 21 Jan 0618 ALERT: Electron 2MeV Integral Flux > 1000pfiu 20 Jan 1845 - 231 Jan 1800 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 10pfiu 20 Jan 1845 - 21 Jan 1800 21 Jan 1654 EXT WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 1845 - 21 Jan 1800 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1718 ALERT: Geomagnetic K = 5 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1712 21 Jan 1732 ALERT: Geomagnetic K = 5 </td <td>20 Jan 0704</td> <td></td> <td>20 Jan 0701</td> | 20 Jan 0704 | | 20 Jan 0701 |
| 20 Jan 0721 | 20 Jan 0712 | | 20 Jan 0705 |
| 20 Jan 0730 ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 e 20 Jan 0830 e 20 Jan 0830 - 2359 20 Jan 0906 SUMMARY: IOem Radio Burst 20 Jan 0830 e 20 Jan 0830 - 2359 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1232 20 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 1845 - 2359 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0705 - 1440 21 Jan 0649 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 21 Jan 1800 21 Jan 1654 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 21 Jan 1800 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 2359 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse 21 Jan 1710 - 2359 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 21 Jan 1722 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1741 21 Jan 1742 WARDING: Geomagnetic K = 6 | 20 Jan 0721 | | 20 Jan 0643 |
| 20 Jan 0810 SUMMARY: X-ray Event > X1 20 Jan 0636 20 Jan 0806 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 2359 20 Jan 0906 SUMMARY: 10cm Radio Burst 20 Jan 0830 - 2359 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1232 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1000pfu 20 Jan 1845 - 2359 21 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 - 1440 21 Jan 0618 ALERT: Electron 2MeV Integral Flux > 1000pfu 21 Jan 0500 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 20 Jan 1845 - 21 Jan 1800 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 21 Jan 1725 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1711 21 Jan 1722 ALERT: Geomagnetic K = 5 21 Jan 1720 - 2359 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1742 - 2359 21 Ja | 20 Jan 0730 | | 20 Jan 0730 |
| 20 Jan 0830 WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 2359 20 Jan 0906 SUMMARY: 10cm Radio Burst 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 1845 20 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0705 - 1440 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1000pfu 21 Jan 0500 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 0830 - 21 Jan 1845 21 Jan 1654 EXT WARNING: Proton 10MeV Integral Flux > 1pfu 20 Jan 0830 - 21 Jan 2359 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1710 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1725 21 Jan 1732 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ∈ 6 21 Jan 1742 21 Jan 1742 WARNING: Geomagnetic K ∈ 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K ∈ 6 21 Jan 1834 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1830 21 Jan 2202 WATCH: Geomagnetic K = 6 21 Jan 1830 21 Jan 2204 WATCH: Geomagnetic K = 6 21 Jan 1830 21 Jan 2320 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0705 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1839 21 Jan 2334 EXT WARNING: Geomagnetic K = 6 21 Jan 1839 22 Jan 0564 22 Jan 0564 23 Jan 0564 24 Jan 0560 25 Jan 0560 26 Jan 0570 - 22 Jan 1550 27 Jan 0560 28 Jan 0580 29 Jan 0580 29 Jan 0580 29 Jan 0580 20 Jan 0730 22 Jan 0584 21 Jan 2334 22 Jan 2344 31 EXT WARNING: Geomagnetic K = 4 32 Jan 0545 32 Jan 0245 33 Jan 0245 | 20 Jan 0810 | | 20 Jan 0636 |
| 20 Jan 0906 SUMMARY: 10cm Radio Burst 20 Jan 0635 20 Jan 1320 ALERT: Type IV Radio Emission 20 Jan 1232 20 Jan 1845 WARNING: Proton 100MeV Integral Flux > 1000pfiu 20 Jan 0705 -1440 21 Jan 0518 ALERT: Electron 2MeV Integral Flux > 1000pfiu 21 Jan 0500 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1000pfiu 21 Jan 0500 21 Jan 0654 EXT WARNING: Proton 100MeV Integral Flux > 10pfiu 20 Jan 1845 -21 Jan 1800 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 -21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 -2359 21 Jan 1711 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 2359 21 Jan 1732 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 2359 21 Jan 1742 24 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 5 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 5 21 Jan 1839 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0705 -21 Jan 1850 21 Jan 2330 EXT WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 0700 -21 Jan 1850 21 Jan 2334 EXT WARNING: Proton 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 1550 21 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 1755 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 1755 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 1755 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfiu 20 Jan 0700 -22 Jan 1755 22 Jan 2344 ALERT: Geomagnetic K= 6 22 Jan 2343 3 Jan 0245 | 20 Jan 0830 | | 20 Jan 0830 -2359 |
| 20 Jan 1845 20 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 21 Jan 0508 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1000pfu 21 Jan 0654 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 1654 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 1654 UWARNING: Geomagnetic Sudden Impulse expected 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1718 ALERT: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 UWARNING: Geomagnetic K = 5 21 Jan 1720 UWARNING: Geomagnetic K = 5 21 Jan 1730 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1742 UWARNING: Geomagnetic K = 7 21 Jan 1742 UWARNING: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K ≥ 20 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1750 22 Jan 0354 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 23 Jan 044 ALERT: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1750 24 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1845 21 Jan 2334 ALERT: Geomagnetic K = 6 21 Jan 1750 22 Jan 056 CONT ALERT: Proton Event 10MeV Integral Flux > 100pfu 22 Jan 056 CONT ALERT: Geomagnetic K = 6 22 Jan 0544 ALERT: Geomagnetic K = 10 Jan 0244 | 20 Jan 0906 | · · · · · · · · · · · · · · · · · · · | 20 Jan 0635 |
| 20 Jan 1845 20 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 21 Jan 0508 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1000pfu 21 Jan 0654 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 21 Jan 1654 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 21 Jan 1654 UWARNING: Geomagnetic Sudden Impulse expected 21 Jan 1704 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1718 ALERT: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 UWARNING: Geomagnetic K = 5 21 Jan 1720 UWARNING: Geomagnetic K = 5 21 Jan 1730 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1742 UWARNING: Geomagnetic K = 7 21 Jan 1742 UWARNING: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K ≥ 20 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1750 22 Jan 0354 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 23 Jan 044 ALERT: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1750 24 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1845 21 Jan 2334 ALERT: Geomagnetic K = 6 21 Jan 1750 22 Jan 056 CONT ALERT: Proton Event 10MeV Integral Flux > 100pfu 22 Jan 056 CONT ALERT: Geomagnetic K = 6 22 Jan 0544 ALERT: Geomagnetic K = 10 Jan 0244 | 20 Jan 1320 | ALERT: Type IV Radio Emission | 20 Jan 1232 |
| 20 Jan 2039 SUMMARY: Proton Event 10MeV Integral Flux > 1000pfu 21 Jan 0508 ALERT: Electron 2MeV Integral Flux > 1000pfu 21 Jan 0500 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 10pfu 20 Jan 1845 - 21 Jan 1800 21 Jan 0654 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 21 Jan 2359 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 - 2359 21 Jan 1732 ALERT: Geomagnetic K = 5 21 Jan 1720 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1740 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 21 Jan 2320 WATCH: Geomagnetic K = 7 21 Jan 1750 21 Jan 2320 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0705 - 21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1750 22 Jan 0354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0705 - 21 Jan 1845 22 Jan 0354 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0730 22 Jan 0354 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0730 22 Jan 0343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0730 22 Jan 0345 ALERT: Geomagnetic K = 4 23 Jan 0244 | 20 Jan 1845 | 7.1 | 20 Jan 1845 -2359 |
| 21 Jan 0518 | 20 Jan 2039 | | 20 Jan 0705 -1440 |
| 21 Jan 0649 EXT WARNING: Proton 100MeV Integral Flux > 1pfu 20 Jan 1845 - 21 Jan 1800 21 Jan 0654 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 21 Jan 2359 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1715 SUMMARY: Geomagnetic K = 4 21 Jan 1711 21 Jan 1718 ALERT: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 2359 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1725 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1732 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1740 21 Jan 1844 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 6 22 Jan 230 22 Jan 231 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K - index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 - 22 Jan 1755 22 Jan 2354 ALERT: Geomagnetic K - index of 6 22 Jan 2340 23 Jan 0245 ALERT: Geomagnetic K - index of 6 22 Jan 2340 23 Jan 0245 | 21 Jan 0518 | | 21 Jan 0500 |
| 21 Jan 0654 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 21 Jan 2359 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse 21 Jan 1711 21 Jan 1718 ALERT: Geomagnetic K = 5 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 2359 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1720 2359 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1740 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 231 Jan 2326 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 20 Jan 0705 - 21 Jan 1750 21 Jan 2354 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 - 22 Jan 1755 22 Jan 2354 ALERT: Geomagnetic K-index of 6 22 Jan 2340 23 Jan 0245 ALERT: Geomagnetic K-4 23 Jan 0244 | 21 Jan 0649 | | 20 Jan 1845 -21 Jan 1800 |
| 21 Jan 1654 WARNING: Geomagnetic Sudden Impulse expected 21 Jan 1710 - 21 Jan 1725 21 Jan 1704 WARNING: Geomagnetic K = 4 21 Jan 1710 - 2359 21 Jan 1715 SUMMARY: Geomagnetic Sudden Impulse 21 Jan 1711 21 Jan 1718 ALERT: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1720 - 2359 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K = 7 21 Jan 1740 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 7 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Geomagnetic K = 5 21 Jan 1750 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 10pfu 22 Jan 0545 ALERT: Geomagnetic K = index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 22 Jan 0545 ALERT: Geomagnetic K = index of 6 22 Jan 0544 23 Jan 0245 ALERT: Electron 2MeV Integral Flux > 100pfu 22 Jan 0304 | 21 Jan 0654 | | 20 Jan 0830 - 21 Jan 2359 |
| 21 Jan 1715 21 Jan 1718 21 Jan 1718 ALERT: Geomagnetic Sudden Impulse 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 -2359 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1725 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1742 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2204 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 23 Jan 0245 ALERT: Geomagnetic K-index of 6 22 Jan 0244 | 21 Jan 1654 | | 21 Jan 1710 -21 Jan 1725 |
| 21 Jan 1715 21 Jan 1718 21 Jan 1718 ALERT: Geomagnetic Sudden Impulse 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 4 21 Jan 1711 21 Jan 1720 WARNING: Geomagnetic K = 5 21 Jan 1720 -2359 21 Jan 1727 ALERT: Geomagnetic K = 5 21 Jan 1725 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1742 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2204 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 23 Jan 0245 ALERT: Geomagnetic K-index of 6 22 Jan 0244 | 21 Jan 1704 | WARNING: Geomagnetic $K = 4$ | 21 Jan 1710 - 2359 |
| 21 Jan 1720 WARNING: Geomagnetic K = 5 | 21 Jan 1715 | SUMMARY: Geomagnetic Sudden Impulse | 21 Jan 1711 |
| 21 Jan 1727 21 Jan 1732 ALERT: Geomagnetic K = 5 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1742 -2359 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 21 Jan 2204 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1845 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 23 Jan 2354 ALERT: Geomagnetic K = 4 23 Jan 0244 | 21 Jan 1718 | ALERT: Geomagnetic $K = 4$ | 21 Jan 1711 |
| 21 Jan 1732 ALERT: Geomagnetic K = 6 21 Jan 1730 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1742 -2359 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic K = 7 21 Jan 1839 22 Jan 2204 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 10pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K - index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 10pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K = 4 23 Jan 0244 | 21 Jan 1720 | WARNING: Geomagnetic $K = 5$ | 21 Jan 1720 -2359 |
| 21 Jan 1742 WARNING: Geomagnetic K ≥ 7 21 Jan 1742 -2359 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0730 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 10pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K = 4 23 Jan 0244 | 21 Jan 1727 | | 21 Jan 1725 |
| 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A \geq 30 22 Jan 21 Jan 2304 WATCH: Geomagnetic A \geq 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0730 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K = 4 23 Jan 0244 | 21 Jan 1732 | ALERT: Geomagnetic $K = 6$ | 21 Jan 1730 |
| 21 Jan 1751 ALERT: Geomagnetic K = 7 21 Jan 1741 21 Jan 1834 ALERT: Geomagnetic K = 6 21 Jan 1832 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 23 Jan 0730 24 Jan 0545 ALERT: Geomagnetic K-index of 6 25 Jan 0544 26 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 27 Jan 0544 28 Jan 2354 ALERT: Geomagnetic K-index of 6 29 Jan 0544 20 Jan 0210 -22 Jan 1755 20 Jan 0245 ALERT: Electron 2MeV Integral Flux > 1000pfu 20 Jan 0210 -22 Jan 1755 21 Jan 2354 22 Jan 2354 23 Jan 0245 ALERT: Geomagnetic K = 4 23 Jan 0244 | 21 Jan 1742 | WARNING: Geomagnetic $K \ge 7$ | 21 Jan 1742 -2359 |
| 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 100pfu 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 24 Jan 0544 25 Jan 2354 ALERT: Geomagnetic K-index of 6 26 Jan 0544 27 Jan 2354 ALERT: Geomagnetic K-index of 6 28 Jan 0544 29 Jan 2354 ALERT: Geomagnetic K-index of 6 29 Jan 0544 20 Jan 0544 21 Jan 0545 ALERT: Geomagnetic K-index of 6 20 Jan 0544 21 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 23 Jan 0245 | 21 Jan 1751 | | 21 Jan 1741 |
| 21 Jan 1840 ALERT: Geomagnetic K = 7 21 Jan 1839 21 Jan 2202 WATCH: Geomagnetic A ≥ 30 22 Jan 21 Jan 2204 WATCH: Geomagnetic A ≥ 20 23 Jan 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 21 Jan 2330 EXT WARNING: Geomagnetic K = 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 100pfu 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 24 Jan 0544 25 Jan 2354 ALERT: Geomagnetic K-index of 6 26 Jan 0544 27 Jan 2354 ALERT: Geomagnetic K-index of 6 28 Jan 0544 29 Jan 2354 ALERT: Geomagnetic K-index of 6 29 Jan 0544 20 Jan 0544 21 Jan 0545 ALERT: Geomagnetic K-index of 6 20 Jan 0544 21 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 23 Jan 0245 | 21 Jan 1834 | ALERT: Geomagnetic $K = 6$ | 21 Jan 1832 |
| 21 Jan 2204 | | | 21 Jan 1839 |
| 21 Jan 2204 | 21 Jan 2202 | WATCH: Geomagnetic $A \ge 30$ | 22 Jan |
| 21 Jan 2322 SUMMARY: Proton Event 10MeV Integral Flux > 100pfu 20 Jan 0705 -21 Jan 1750 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K= 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 22 Jan 2343 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2354 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | | 23 Jan |
| 21 Jan 2326 SUMMARY: Proton Event 100MeV Integral Flux > 1pfu 20 Jan 0650 - 21 Jan 1845 21 Jan 2330 EXT WARNING: Geomagnetic K= 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | - | |
| 21 Jan 2330 EXT WARNING: Geomagnetic K= 5 21 Jan 1720 - 22 Jan 1500 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | | |
| 21 Jan 2354 EXT WARNING: Proton 10MeV Integral Flux > 10pfu 20 Jan 0830 - 22 Jan 2359 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K=4 23 Jan 0244 | | | |
| 22 Jan 0056 CONT ALERT: Proton Event 10MeV Integral Flux > 1000pfu 20 Jan 0730 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K=4 23 Jan 0244 | | | |
| 22 Jan 0545 ALERT: Geomagnetic K-index of 6 22 Jan 0544 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | · · · · · · · · · · · · · · · · · · · | |
| 22 Jan 2343 SUMMARY: Proton Event 10MeV Integral Flux > 10pfu 16 Jan 0210 -22 Jan 1755 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K=4 23 Jan 0244 | | e i | |
| 22 Jan 2354 ALERT: Electron 2MeV Integral Flux > 1000pfu 22 Jan 2330 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | | |
| 23 Jan 0245 ALERT: Geomagnetic K= 4 23 Jan 0244 | | | |
| <u> </u> | | | |
| | | • | |
| 23 Jan 1736 ALERT: Geomagnetic K= 4 23 Jan 1735 | | | |
| 23 Jan 2335 EXT WARNING: Geomagnetic K= 4 23 Jan 1732 - 1500 | 23 Jan 2335 | | |



Twenty-seven Day Outlook



| | Radio Flux | Planetary | Largest | | Radio Flux | Planetary | Largest |
|--------|------------|-----------|----------|--------|------------|-----------|----------|
| Date | 10.7 cm | A Index | Kp Index | Date | 10.7 cm | A Index | Kp Index |
| 26 Jan | 95 | 12 | 3 | 09 Feb | 120 | 10 | 3 |
| 27 | 95 | 12 | 3 | 10 | 120 | 10 | 3 |
| 28 | 100 | 15 | 3 | 11 | 120 | 12 | 3 |
| 29 | 100 | 20 | 5 | 12 | 120 | 10 | 3 |
| 30 | 105 | 20 | 5 | 13 | 120 | 8 | 3 |
| 31 | 105 | 20 | 5 | 14 | 120 | 10 | 3 |
| 01 Feb | 105 | 20 | 5 | 15 | 115 | 8 | 3 |
| 02 | 105 | 12 | 3 | 16 | 115 | 8 | 3 |
| 03 | 110 | 8 | 3 | 17 | 110 | 10 | 3 |
| 04 | 110 | 8 | 3 | 18 | 105 | 10 | 3 |
| 05 | 115 | 8 | 3 | 19 | 100 | 10 | 3 |
| 06 | 115 | 8 | 3 | 20 | 95 | 12 | 3 |
| 07 | 115 | 15 | 3 | 21 | 90 | 15 | 3 |
| 08 | 120 | 20 | 5 | | | | |



Energetic Events

| | Т | ime | | X- | ray | Opt | ical Information | 1 | Pe | eak | Swee | p Freq |
|-----------|-------|------|------|-------|-------|-------|------------------|-----|------|--------|------|--------|
| Date | | | 1/2 | | Integ | Imp/ | Location | Rgn | Radi | o Flux | Inte | nsity |
| | Begin | Max | Max | Class | Flux | Brtns | Lat CMD | # | 245 | 2695 | II | IV |
| 17 Jan 05 | 0310 | 0321 | 0332 | M2.6 | .022 | | | 720 | | | | |
| 17 Jan 05 | 0659 | 0952 | 1007 | X3.8 | .840 | | | 720 | | | | |
| 18 Jan 05 | 1123 | 1132 | 1159 | M1.6 | .023 | | | 720 | | | | |
| 18 Jan 05 | 1538 | 1551 | 1559 | M4.6 | .034 | 2n | N14W40 | 720 | | 100 | | |
| 19 Jan 05 | 0658 | 0731 | 0755 | M6.7 | .077 | 2n | N19W47 | 720 | | 5000 | | |
| 19 Jan 05 | 0803 | 0822 | 0840 | X1.3 | .220 | | | 720 | | 2 | 2 | |
| 19 Jan 05 | 1019 | 1024 | 1029 | M2.7 | .013 | 1n | N18W47 | 720 | | | | |
| 19 Jan 05 | 1532 | 1540 | 1548 | M1.6 | .010 | 2f | N13W50 | 720 | | | | |
| 20 Jan 05 | 0636 | 0701 | 0726 | X7.1 | 1.300 | 2b | N12W58 | 720 | | 8400 | 3 | 2 |
| 21 Jan 05 | 1010 | 1016 | 1019 | M1.7 | .004 | | | 720 | | 51 | | |
| 21 Jan 05 | 1347 | 1355 | 1410 | M1.2 | .011 | | | 719 | | | | |
| 23 Jan 05 | 0128 | 0151 | 0201 | M1.0 | .009 | | | 720 | | | | |

Flare List

| | | | | | | ptical | |
|-------------|-------|-------|-------|--------|-------|----------|-----|
| | | Time | | X-ray | Imp / | Location | Rgn |
| <u>Date</u> | Begin | Max | End | Class. | Brtns | Lat CMD | |
| 17 January | 0244 | 0259 | 0307 | C3.9 | | | 720 |
| | 0310 | 0321 | 0332 | M2.6 | | | 720 |
| | 0606 | 0610 | 0615 | C3.9 | | | 720 |
| | 0659 | 0952 | 1007 | X3.8 | | | 720 |
| | B0906 | U0950 | A1011 | | 2f | N13W23 | 720 |
| | B1012 | U1032 | A1043 | | Sf | N13W22 | 720 |
| | 1946 | 1955 | 2010 | | Sf | N14W28 | 720 |
| | 2014 | 2018 | 2026 | | Sf | N16W27 | 720 |
| | 2052 | 2054 | 2058 | | Sf | N13W26 | 720 |
| | 2214 | 2215 | 2217 | | Sf | N10W26 | 720 |
| 18 January | 0039 | 0041 | 0059 | C6.0 | Sf | N13W29 | 720 |
| | 0209 | 0210 | 0221 | C3.2 | Sf | N17W28 | 720 |
| | 0435 | 0435 | 0438 | | Sf | N16W34 | 720 |
| | 0541 | 0546 | 0549 | C2.0 | | | 720 |
| | 0552 | 0615 | 0624 | C6.1 | | | 720 |
| | B0748 | 0752 | A0752 | C2.4 | 1f | N14W39 | 720 |
| | 1123 | 1132 | 1159 | M1.6 | | | 720 |
| | 1540 | 1549 | 1636 | M4.6 | 2n | N14W40 | 720 |
| | 1748 | 1749 | 1756 | | Sf | N14W41 | 720 |
| | 1830 | 1900 | 1938 | C4.2 | 1f | N18W38 | 720 |
| | 1843 | 1848 | 1852 | C2.1 | | | 720 |
| | 1940 | 2127 | 2247 | | Sf | N15W43 | 720 |
| | 2247 | 2257 | 2309 | | Sf | N13W41 | 720 |
| | 2316 | 2324 | 2337 | | Sf | N17W43 | 720 |
| 19 January | 0310 | 0324 | 0337 | C1.8 | | | 720 |
| | 0444 | 0448 | 0452 | C1.9 | | | |
| | 0514 | 0527 | 0541 | C7.2 | Sf | N12W44 | 720 |



Flare List – continued.

| | | m: | | 37 | | Optical | D. |
|-----------------|-------|------|-------------|--------------|------------------------|------------------------|------------|
| Dete | D | Time | F., 1 | X-ray | Imp / | Location | Rgn |
| Date 10 January | Begin | Max | End 0056 | Class. | Brtns | Lat CMD | 720 |
| 19 January | 0726 | 0813 | 0956 | M6.7 | 2n | N19W47 | 720 |
| | 0803 | 0822 | 0840 | X1.3 | CC | N110W47 | 720 |
| | 0956 | 0956 | 1004 | | Sf | N18W47 | 720 |
| | 1004 | 1005 | 1013 | 142.7 | Sf | N18W47 | 720 |
| | 1015 | 1023 | A1042 | M2.7 | ln ac | N18W47 | 720 |
| | 1539 | 1539 | 1539 | M1.6 | 2f | N13W50 | 720 |
| | 1556 | 1607 | 1618 | G5.2 | Sf | N13W60 | 720 |
| ••• | 2322 | 2325 | 2332 | C5.3 | Sf | S01E55 | 723 |
| 20 January | 0037 | 0047 | 0056 | C1.6 | G 0 | 3 14 4 11 1 2 0 | 720 |
| | 0325 | 0333 | 0347 | C4.8 | Sf | N11W58 | 720 |
| | 0641 | 0646 | 0854 | X7.1 | 2b | N12W58 | 720 |
| | B0727 | 0721 | A0000 | | 3n | N14W62 | |
| | 0855 | 0858 | 0918 | | Sf | N14W57 | 720 |
| | 0919 | 0922 | 0933 | | Sf | N14W57 | 720 |
| | 1612 | 1646 | 1707 | C8.0 | Sf | N19W64 | 720 |
| | 1813 | 1816 | 1819 | C3.6 | | | 720 |
| | 2147 | 2153 | 2156 | C4.5 | | | 720 |
| 21 January | 0022 | 0023 | 0028 | C5.8 | Sf | N15W67 | 720 |
| | 0423 | 0425 | 0432 | C6.3 | $\mathbf{S}\mathbf{f}$ | N19W69 | 720 |
| | 0630 | 0636 | 0638 | C1.6 | | | 720 |
| | 0641 | 0646 | 0649 | C1.8 | | | 720 |
| | 0821 | 0835 | 0840 | C1.3 | | | 719 |
| | 0905 | 0912 | 0918 | C1.7 | | | 719 |
| | 1010 | 1016 | 1019 | M1.7 | | | 720 |
| | 1207 | 1212 | 1216 | C1.3 | | | 719 |
| | 1347 | 1355 | 1410 | M1.2 | | | 719 |
| | 1705 | 1711 | 1714 | C1.6 | | | 720 |
| | 2043 | 2049 | 2055 | C1.6 | | | 720 |
| 22 January | 0414 | 0432 | 0447 | C3.1 | | | 719 |
| 22 Juliuui y | 0608 | 0432 | 0615 | B4.7 | | | 725 |
| | 0715 | 0719 | 0723 | B5.1 | | | 720 |
| | 0800 | 0803 | 0805 | B8.5 | | | 720 |
| | 1203 | 1207 | 1213 | B7.3 | | | 720 |
| | 1205 | 1245 | 1213 | C1.3 | | | 720 |
| | 1724 | 1728 | 1734 | B8.9 | | | 725 |
| | 2045 | 2048 | 2050 | B6.9 B6.6 | | | 723 |
| | 2043 | 2048 | 2055 | C1.6 | | | 120 |
| | | | | | | | 720 |
| | 2056 | 2100 | 2105 | C1.4 | | | 720 720 |
| 22 Iom | 2108 | 2113 | 2118 | C1.9 | | | 720 |
| 23 January | 0128 | 0151 | 0201 | M1.0 | | | 720 |
| | 0443 | 0505 | 0523 | C4.5 | | | 720 |



Region Summary

| | | | | | | <u>ımmar</u> | <u> </u> | | | | 71 | | | | | |
|----------|----------------------|-----------------|------------------------------|----------------|---------------|---------------|--------------|----------------|-------|-----|------------|---|------------|-----|---|--|
| | Locatio | Helio | Aron | | Characte | | Mag | | X-ray | | Flares | | Inti | no1 | | |
| Date | (°Lat°CMD) | | Area (10 ⁻⁶ hemi) | Extent (helio) | Spot Class | Spot Count | Mag Class | \overline{C} | X-ray | | - <u>s</u> | 1 | Optio 2 | 3 | 4 | |
| | | | | , (110110) | C.MOD | Count | 2.400 | | | - 1 | | | | | | |
| 07.1 | | gion 71 | | 0.2 | | 001 | | | | | | | | | | |
| | n S09E78 | 204 | 0060 | 02 | Hax | 001 | A | | | | | | | | | |
| | n S08E67 | 202 | 0090 | 03 | Cao | 002 | В | | | | | _ | | | | |
| | n S08E54 | 202 | 0090 | 03 | Dao | 003 | В | | | | | 1 | | | | |
| | n S08E44 | 198 | 0100 | 03 | Dao | 003 | В | _ | | | | | | | | |
| | n S06E32 | 197 | 0070 | 05 | Dao | 002 | В | 2 | | | | | | | | |
| | n S07E19 | 197 | 0180 | 13 | Eao | 016 | В | | | | | | | | | |
| | n S07E07 | 196 | 0160 | 16 | Fko | 019 | В | 8 | | | 6 | | | | | |
| | n S05W06 | 196 | 0250 | 18 | Fao | 022 | В | 3 | 1 | | 1 | | | | | |
| | n S07W21 | 197 | 0360 | 17 | Fki | 026 | Bg | | 1 | | 4 | | | | | |
| | n S07W34 | 197 | 0310 | 17 | Fai | 019 | Bg | | | | | | | | | |
| 17 Ja | n S07W47 | 197 | 0240 | 17 | Fai | 017 | В | | | | | | | | | |
| 18 Ja | n S07W64 | 200 | 0140 | 16 | Fao | 010 | В | | | | | | | | | |
| 19 Ja | n S06W76 | 199 | 0110 | 10 | Dao | 003 | В | | | | | | | | | |
| 20 Ja | n S07W88 | 198 | 0100 | 06 | Cso | 003 | В | | | | | | | | | |
| | | | | | | | | 13 | 2 | 0 | 11 | 1 | 0 | 0 | 0 | |
| Cross | sed West Lin | ıb. | | | | | | | | | | | | | | |
| Abso | lute heliograp | phic lon | gitude:196 | | | | | | | | | | | | | |
| | R_{c} | gion 72 | 20 | | | | | | | | | | | | | |
| 10 Ia | n N09E65 | .gion 72 177 | 0010 | 06 | Bxo | 003 | В | | | | | | | | | |
| | n N13E52 | 177 | 0050 | 05 | Cao | 003 | В | | | | | | | | | |
| | n N13E37 | 179 | 0420 | 08 | Dkc | 022 | В | | | | 2 | | | | | |
| | n N13E37 | 179 | 1080 | 09 | Dkc | 038 | Bd | 1 | | | _ | | | | | |
| | n N13E24 | 180 | 1540 | 10 | Dkc | 023 | Bd | 23 | 3 | | 8 | 2 | 1 | | | |
| | n N13W03 | 179 | 1620 | 10 | Dkc | 054 | Bd | 11 | 5 | 2 | 19 | 3 | 2 | 1 | | |
| | n N13W15 | 178 | 1630 | 15 | Ekc | 034 | Bd | 5 | 1 | 4 | 7 | 1 | 4 | 1 | | |
| | n N13W13 | 180 | 1460 | 14 | Ekc | 048 | Bd | 2 | 1 | 1 | 5 | 1 | 1 | | | |
| | n N13W44 | 180 | 1400 | 14 | Ekc | 048 | Bg | 7 | 2 | 1 | <i>7</i> | 2 | 1 | | | |
| | n N14W56 | 179 | 1220 | 13 | Ekc | 031 | Вd | 2 | 3 | 1 | 4 | 1 | 2 | | | |
| | n N14W70 | 180 | 1400 | 15 | Ekc | 027 | | 5 |) | 1 | 4 | 1 | 1 | | | |
| | n N14W/0 n N13W83 | | 1090 | | Ekc | | Bgd | | 1 | 1 | 2 | | 1 | | | |
| | | 179 176 | | 15 | | 017 | Bgd | 6 | 1 | | 2 | | | | | |
| ZZ Ja | n N11W93 | 176 | 0900 | 06 | Dkc | 006 | Bgd | 3 | 1.6 | _ | 50 | Ω | O | 1 | 0 | |
| <u> </u> | 1337 . 7 . | 1 | | | | | | 65 | 16 | 3 | 58 | 9 | ð | 1 | U | |

Crossed West Limb.
Absolute heliographic longitude:179



Region Summary – continued.

| | | | Re | gion Si | ımmar | y – con | tinued. | | | | | | | | | |
|----------|-----------------------|-----------|-------------------------|-------------------|---------------|---------------|---------|-------------------------|-------------|---|-------|---|---------------------|-----|---|--|
| | Locatio | Helio | Area | Sunspot Extent | Character | | Mag | | X-ra | | Flare | | Optic | -a1 | | |
| Date (| ° Lat ° CMD) | | (10 ⁻⁶ hemi) | | Spot Class | Spot Count | Class | $\overline{\mathbf{C}}$ | <u>л-та</u> | X | - S | 1 | дис 2 | 3 | 4 | |
| | , | | | () | | 0 0 11227 | | | | | | | | | | |
| 16 Ion | | gion 721 | | 0.4 | Can | 002 | D | | | | | | | | | |
| | S03E14 | 149 | 0020 | 04 | Cso | 002 | В | | | | | | | | | |
| | S03E02 | 148 | 0000 | 01 | Axx | 001 | A | | | | | | | | | |
| | S03W11 | 148 | | | | | | | | | | | | | | |
| | S03W24 | 148 | | | | | | | | | | | | | | |
| | S03W37 | 148 | | | | | | | | | | | | | | |
| | S03W50 | 148 | | | | | | | | | | | | | | |
| | S03W63 | 148 | | | | | | | | | | | | | | |
| 23 Jan | S03W76 | 148 | | | | | | 0 | 0 | Λ | Λ | Λ | Λ | Λ | Λ | |
| Still on | Digle | | | | | | | U | U | U | 0 | U | U | U | U | |
| | Disk. te heliograf | ahia lana | ituda:140 | | | | | | | | | | | | | |
| Ausorui | ie nenograj | onic long | 11uuc. 140 | | | | | | | | | | | | | |
| | | gion 722 | | | | | | | | | | | | | | |
| | N19E04 | 159 | 0000 | 01 | Axx | 001 | A | | | | | | | | | |
| 17 Jan | N19W09 | 159 | | | | | | | | | | | | | | |
| | N19W25 | 161 | 0000 | 01 | Axx | 001 | A | | | | | | | | | |
| | N19W38 | 161 | | | | | | | | | | | | | | |
| | N19W51 | 161 | | | | | | | | | | | | | | |
| | N19W64 | 161 | | | | | | | | | | | | | | |
| | N19W77 | 161 | | | | | | | | | | | | | | |
| 23 Jan | N19W90 | 161 | | | | | | | | | | | | | | |
| | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Still on | | | | | | | | | | | | | | | | |
| Absolut | te heliograp | ohic long | itude:159 | | | | | | | | | | | | | |
| | Re | gion 723 | | | | | | | | | | | | | | |
| 17 Jan | N06E77 | 073 | 0070 | 02 | Hax | 001 | A | | | | | | | | | |
| 18 Jan | N07E63 | 073 | 0100 | 02 | Hsx | 001 | A | | | | | | | | | |
| 19 Jan | N06E52 | 071 | 0070 | 09 | Cao | 002 | В | 1 | | | 1 | | | | | |
| | N06E35 | 075 | 080 | 02 | Hsx | 001 | A | | | | | | | | | |
| 21 Jan | N06E22 | 074 | 0070 | 02 | Hsx | 001 | A | | | | | | | | | |
| 22 Jan | N07E07 | 076 | 0120 | 03 | Cso | 003 | В | | | | | | | | | |
| 23 Jan | N06W04 | 074 | 0070 | 02 | Hsx | 001 | A | | | | | | | | | |
| | | | | | | | | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | |
| Still on | Disk. | | | | | | | | | | | | | | | |
| Absolut | te heliograp | phic long | itude: 074 | | | | | | | | | | | | | |
| | | • | | | | | | | | | | | | | | |



Region Summary – continued.

| | | | | <u>R</u> e | egion Si | | | <u>tinue</u> d. | | | | | | | | |
|--------------------------------------------------|------------|-----------------|-------|------------|----------|----------|-------|-----------------|----------|------|---|-------|---|-------|---|---|
| | Locatio | | | | | Characte | | | | | | lares | | | | |
| | | Helio | Ar | | Extent | Spot | Spot | Mag | | X-ra | _ | | (| Optic | | |
| Date (° Lat | t°CMD) | Lon | (10-5 | hemi) | (helio) | Class | Count | Class | <u>C</u> | M | X | S | 1 | 2_ | 3 | 4 |
| | Re | gion 724 | ! | | | | | | | | | | | | | |
| 18 Jan S12 | 2W07 | 143 | 00 | 10 | 03 | Cso | 003 | В | | | | | | | | |
| 19 Jan S12 | 2W20 | 143 | | | | | | | | | | | | | | |
| 20 Jan S12 | 2W33 | 143 | | | | | | | | | | | | | | |
| 21 Jan S12 | 2W46 | 143 | | | | | | | | | | | | | | |
| 22 Jan S12 | 2W59 | 143 | | | | | | | | | | | | | | |
| 23 Jan S12 | 2W72 | 143 | | | | | | | | | | | | | | |
| | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Still on Dis | sk. | | | | | | | | | | | | | | | |
| Absolute he | eliograp | ohic long | itude | :143 | | | | | | | | | | | | |
| | | _ | | | | | | | | | | | | | | |
| 21 Jan S04 | | gion 725 132 | 009 | 00 | 05 | Dsi | 008 | В | | | | | | | | |
| 21 Jan S0 ² 22 Jan S0 ² | | | | | | | | | | | | | | | | |
| | | 132 | 019 | | 05 | Dsi | 009 | Bg | | | | | | | | |
| 23 Jan S03 | 3 W 04 | 134 | 01: | 50 | 06 | Cao | 007 | В | Λ | Λ | Λ | Λ | Λ | Λ | Λ | 0 |
| CA:II D. | 1 | | | | | | | | 0 | 0 | 0 | 0 | 0 | U | U | U |
| Still on Dis | | 1 . 1 | . 1 | 122 | | | | | | | | | | | | |
| Absolute h | enograp | onic long | itude | :132 | | | | | | | | | | | | |
| | Re | gion 726 | Ó | | | | | | | | | | | | | |
| 21 Jan S02 | 2E27 | 069 | 004 | 40 | 04 | Cso | 003 | В | | | | | | | | |
| 22 Jan S01 | 1E14 | 069 | 002 | 20 | 03 | Cro | 002 | В | | | | | | | | |
| 23 Jan S01 | 1W02 | 072 | 00 | 10 | 01 | Axx | 002 | Α | | | | | | | | |
| | | | | | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Still on Dis | sk. | | | | | | | | | | | | | | | |
| Absolute he | eliogran | ohic long | itude | : 072 | | | | | | | | | | | | |
| | C 1 | | | | | | | | | | | | | | | |

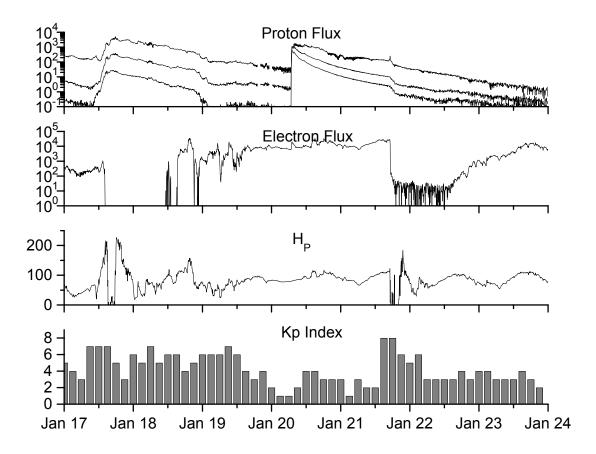


Recent Solar Indices (preliminary) of the observed monthly mean values

| | of the observed monthly mean values | | | | | | | | | |
|--------------------------------------------------------|-------------------------------------|----------------|--------|--------------|--------|--------------|---------------|-------------|-----------|--------|
| | | Sunspot Number | | | | | Flux | Geomagnetic | | |
| | | Observed | values | <u>Ratio</u> | Smooth | values | *Penticton | Smooth | Planetary | Smooth |
| _ | Month | SWO | RI | RI/SWO | SWO | RI | 10.7 cm | Value | Ap | Value |
| 2003 | | | | | | | | | | |
| January 149.3 79.7 0.53 141.7 81.0 144.0 149.2 13 18.2 | | | | | | | | | | |
| | February | 87.0 | 46.0 | 0.53 | 136.4 | 78.5 | 124.5 | 144.7 | 17 | 18.9 |
| | March | 119.7 | 61.1 | 0.51 | 128.1 | 74.2 | 132.2 | 139.5 | 21 | 19.4 |
| | Iviaicii | 117.7 | 01.1 | 0.51 | 120.1 | 74.2 | 132.2 | 137.3 | 21 | 17.4 |
| | April | 119.7 | 60.0 | 0.50 | 121.5 | 70.3 | 126.3 | 135.0 | 20 | 20.1 |
| | May | 89.6 | 55.2 | 0.62 | 118.3 | 67.8 | 129.3 | 133.1 | 26 | 21.0 |
| | June | 118.4 | 77.4 | 0.65 | 113.6 | 65.2 | 129.4 | 130.2 | 24 | 21.5 |
| | | | | | | | | | | |
| | July | 132.8 | 85.0 | 0.64 | 106.9 | 62.0 | 127.8 | 127.2 | 19 | 22.0 |
| | August | 114.3 | 72.7 | 0.64 | 102.8 | 60.3 | 122.1 | 125.2 | 23 | 22.2 |
| | September | | 48.8 | 0.59 | 100.7 | 59.8 | 112.3 | 123.7 | 18 | 21.8 |
| | 1 | | | | | | | | | |
| | October | 118.9 | 65.5 | 0.55 | 96.6 | 58.4 | 153.1 | 121.8 | 35 | 21.1 |
| | November | 118.9 | 67.3 | 0.57 | 93.6 | 57.0 | 153.1 | 120.1 | 28 | 20.0 |
| | December | 75.4 | 46.5 | 0.62 | 91.4 | 55.0 | 115.1 | 118.0 | 16 | 18.6 |
| | 2004 | | | | | | | | | |
| | January | 62.3 | 37.7 | 0.61 | 87.9 | 52.0 | 114.1 | 116.3 | 22 | 18.1 |
| | February | 75.6 | 45.8 | 0.61 | 84.2 | 49.4 | 107.0 | 115.5 | 13 | 17.7 |
| | March | 81.0 | 49.1 | 0.61 | 80.9 | 49.4 47.2 | 112.2 | 113.5 | 13 | 16.9 |
| | Maich | 01.0 | 49.1 | 0.01 | 80.9 | 47.2 | 112.2 | 114.0 | 14 | 10.9 |
| | April | 59.3 | 39.3 | 0.66 | 77.9 | 45.6 | 101.2 | 112.3 | 11 | 15.5 |
| | May | 77.3 | 41.5 | 0.54 | 74.1 | 43.9 | 99.8 | 109.2 | 8 | 14.3 |
| | June | 78.9 | 43.2 | 0.55 | 70.4 | 41.7 | 97.4 | 107.2 | 8 | 14.0 |
| | 0 0,110 | , 0.5 | | 0.00 | , | , | <i>> 7</i> | 107.2 | Ü | 1 |
| | July | 87.8 | 51.0 | 0.58 | | | 118.5 | | 23 | |
| | August | 69.5 | 40.9 | 0.59 | | | 110.1 | | 11 | |
| | September | | 27.7 | 0.55 | | | 103.1 | | 10 | |
| | - F | | , | | | | | | | |
| | October | 77.9 | 48.4 | 0.62 | | | 105.7 | | 9 | |
| | November | 70.5 | 43.7 | 0.62 | | | 113.2 | | 26 | |
| | December | 34.7 | 17.9 | 0.52 | | | 94.6 | | 11 | |
| | | | | | | | | | | |

NOTE: All smoothed values after September 2002 and monthly values after March 2003 are preliminary estimates. The lowest smoothed sunspot index number for Cycle 22, RI = 8.0, occurred in May 1996. The highest smoothed sunspot number for Cycle 23, RI= 120.8, occurred April 2000. *After June 1991, the 10.7 cm radio flux data source is Penticton, B.C. Canada. Prior to that, it was Ottawa.





Weekly Geosynchronous Satellite Environment Summary Week Beginning 17 January 2005

Protons plot contains the five-minute averaged integral proton flux (protons/cm² –sec –sr) as measured by GOES-11 (W107) for each of three energy thresholds: greater than 10, 50, and 100 MeV.

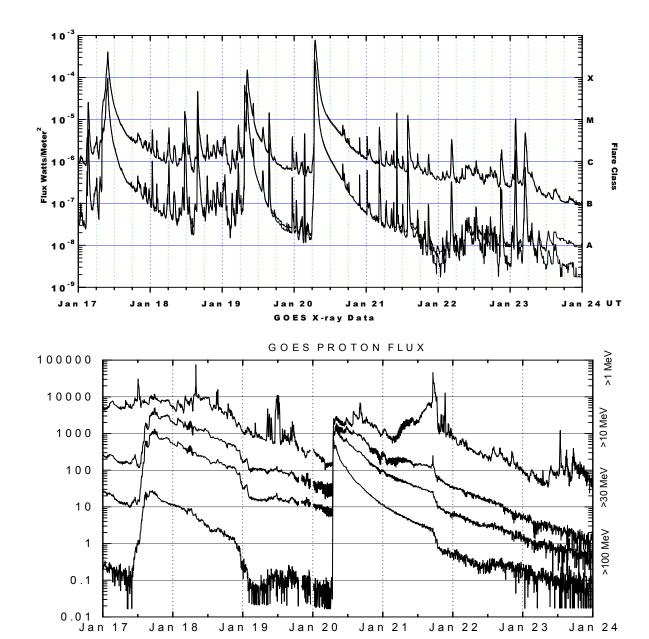
Electrons plot contains the five-minute averaged integral electron flux (electrons/cm²-sec -sr) with energies greater than 2 MeV at GOES-12 (W75).

Hp plot contains the five minute averaged magnetic field H - component in nanoteslas (nT) as measured by GOES-12. The H component is parallel to the spin axis of the satellite, which is nearly parallel to the Earth's rotation axis.

Kp plot contains the estimated planetary 3-hour K-index (derived by the Air Force Weather Agency) in real time from magnetometers at Meanook, Canada; Sitka, AK; Glenlea, Canada; St. Johns, Canada; Ottawa, Canada; Newport, WA; Fredericksburg, VA; Boulder, CO; Fresno, CA and Hartland, UK. These data are made available through cooperation from the Geological Survey of Canada (GSC), British Geological Survey (BGS) and the US Geological Survey. These may differ from the final Kp values derived from a more extensive network of magnetometers.

The data included here are those now available in real time at the SWO and are incomplete in that they do not include the full set of parameters and energy ranges known to cause satellite operating anomalies. The proton and electron fluxes and Kp are "global" parameters that are applicable to a first order approximation over large areas. Haparallel is subject to more localized phenomena and the measurements generally are applicable to within a few degrees of longitude of the measuring satellite.





Weekly GOES Satellite X-ray and Proton Plots

X-ray plot contains five-minute averaged x-ray flux (watts/m²⁾ as measured by GOES 12 (W75) and GOES 10 (W135) in two wavelength bands, .05 - . 4 and .1 - .8 nm. The letters A, B, C, M and X refer to x-ray event levels for the .1 - .8 nm band.

Proton plot contains the five-minute averaged integral proton flux (protons/cm² –sec-sr) as measured by GOES-11 (W107) for each of the energy thresholds: >1, >10, >30 and >100 MeV. P10 event threshold is 10 pfu (protons/cm²-sec-sr) at greater than 10 MeV.

